

WHAT IS CLAIMED IS:

1. An information processing apparatus that creates print data, comprising:

intermediate data converting means for converting
5 print data created by an application to an intermediate code format and storing said converted intermediate code format data and processing conditions of said print data;

editing means for editing the data stored and converted to an intermediate code format by said intermediate data
10 converting means or processing conditions of said print data;

data creating means for creating print data and processing conditions that implement print processing different from the print data created by said application
15 based on the data edited by said editing means; and

preview display controlling means for displaying the print processing result in advance based on the print data created by said data creating means and processing conditions.

20 2. The information processing apparatus according to claim 1, wherein when a plurality of intermediate code format print data is stored, said editing means combines said plurality of intermediate code format print data into a single combined job.

25 3. The information processing apparatus according to claim 1, wherein said preview display controlling means acquires layout information from said stored intermediate

code format data and previews said print processing result based on said layout information.

4. The information processing apparatus according to
claim 1, wherein when a mirroring condition is specified
5 for said stored intermediate code format data, said preview
display controlling means makes it possible to preview the
data in a mirrored display format based on the editing
result from said editing means.

5. The information processing apparatus according to
10 claim 1, wherein when color inversion is specified for said
stored intermediate code format data, said preview display
controlling means makes it possible to preview the data in
a color-inverted display format based on the editing result
from said editing means.

15 6. The information processing apparatus according to
claim 1, wherein when said editing means combines a
plurality of jobs, said preview display controlling means
makes it possible to presents a preview in a display format
in which said combined job is displayed as a single job.

20 7. The information processing apparatus according to
claim 1, comprising print data controlling means for
judging whether the print data is created by said
application or by said data creating means and controlling
the output destination of the print data.

25 8. The information processing apparatus according to
claim 1, wherein said print data controlling means releases

the occupation of the application after said intermediate data converting means stores the converted data.

9. The information processing apparatus according to claim 1, wherein said intermediate code format data 5 converted by said intermediate data converting means is data that can be edited in accordance with expansion, contraction, layout display, mirroring and color inversion.

10. The information processing apparatus according to claim 2, wherein in the processing of combining the print data by said editing means, the stored data is identified based on identification information obtained by adding an ID to identify the stored data to the logical page ID of said stored data.

15 11. An information processing method for creating print data, comprising:

an intermediate data converting step of converting print data created by an application to an intermediate code format and storing said converted intermediate code format 20 data and processing conditions of said print data;

an editing step of editing the data stored and converted to an intermediate code format by said intermediate data converting step or processing conditions of said print data;

25 a data creating step of creating print data and processing conditions that implement print processing

different from the print data created by said application based on the data edited by said editing step; and

a preview display controlling step of displaying the print processing result in advance based on the print data created by said data creating step and processing conditions.

12. The information processing method according to claim 11, wherein when a plurality of intermediate code format print data is stored, said editing step combines said plurality of intermediate code format print data into a single combined job.

13. The information processing method according to claim 11, wherein said preview display controlling step acquires layout information from said stored intermediate code format data and executes processing for previewing said print processing result based on said layout information.

14. The information processing method according to claim 11, wherein when a mirroring condition is specified for said stored intermediate code format data, said preview display controlling step makes it possible to preview the data in a mirrored display format based on the editing result from said editing step.

15. The information processing method according to claim 11, wherein when color inversion is specified for said stored intermediate code format data, said preview display controlling step makes it possible to preview the data in

a color-inverted display format based on the editing result from said editing step.

16. The information processing method according to claim 11, wherein when said editing step combines a plurality of jobs, said preview display controlling step makes it possible to present a preview in a display format in which said combined job is displayed as a single job.

17. The information processing method according to claim 11, comprising a print data controlling step of judging whether the print data is created by said application or by processing in said data creating step and controlling the output destination of the print data.

18. The information processing method according to claim 11, wherein said print data controlling step releases the occupation of the application after said intermediate data converting step stores the converted data.

19. The information processing method according to claim 11, wherein said intermediate code format data converted by said intermediate data converting step is data that can be edited in accordance with expansion, contraction, layout display, mirroring and color inversion.

20. The information processing method according to claim 12, wherein in the processing of combining the print data in said editing step, the stored data is identified based on identification information obtained by adding an

P
U
B
L
I
C
A
T
I
O
N
S
P
R
E
P
A
R
E
D
F
O
R
P
R
I
N
T

ID to identify the stored data to the logical page ID of said stored data.

21. A storage medium that stores a program module for a computer to execute an information processing method for
5 creating print data, said program module comprising:

an intermediate data conversion module that converts print data created by an application to an intermediate code format and stores said converted intermediate code format data and processing conditions of said print data;

10 an editing module that edits the data stored and converted to an intermediate code format by said intermediate data conversion module or processing conditions of said print data;

15 a data creation module that creates print data and processing conditions that implement print processing different from the print data created by said application based on the data edited by said editing module; and

20 a preview display control module that displays the print processing result in advance based on the print data created by processing of said data creation module and processing conditions.

22. The storage medium according to claim 21, wherein when a plurality of intermediate code format print data is stored, said editing module combines said plurality of
25 intermediate code format print data into a single combined job.

23. The storage medium according to claim 21, wherein
said preview display control module acquires layout
information from said stored intermediate code format data
and performs processing to preview said print processing
5 result based on said layout information.

24. The storage medium according to claim 21, wherein
when a mirroring condition is specified for said stored
intermediate code format data, said preview display control
module makes it possible to preview the data in a mirrored
10 display format based on the editing result from said editing
module.

25. The storage medium according to claim 21, wherein
when color inversion is specified for said stored
intermediate code format data, said preview display control
15 module makes it possible to preview the data in a
color-inverted display format based on the editing result
from said editing module.

26. The storage medium according to claim 21, wherein
when said editing means combines a plurality of jobs, said
20 preview display control module makes it possible to present
a preview in a display format in which said combined job
is displayed as a single job.

27. The storage medium according to claim 21,
comprising a print data control module that judges whether
25 the print data is created by said application or by
processing of said data creation module and controls the
output destination of the print data.

28. The storage medium according to claim 21, wherein said print data control module releases the occupation of the application after said intermediate data conversion module stores the converted data.

5 29. The storage medium according to claim 21, wherein said intermediate code format data converted by said intermediate data conversion module is data that can be edited in accordance with expansion, contraction, layout display, mirroring and color inversion.

10 30. The storage medium according to claim 22, wherein in the processing of combining the print data by said editing module, the stored data is identified based on identification information obtained by adding an ID to identify the stored data to the logical page ID of said
15 stored data.

31. An information processing apparatus that creates print data, comprising:

spooling means for storing print data created by an application;

20 determining means for determining whether mirroring or color inversion is specified as the print setting for said print data;

25 preview display controlling means for, when said determining means determines that mirroring or color inversion is specified, creating mirrored or color-inverted display data based on the print data stored in said spooling means and presenting a preview.

32. The information processing apparatus according to claim 31, wherein when mirroring is specified as the print setting for said print data and a binding margin is also set, said preview display controlling means creates 5 mirrored display data after adjusting the binding margin setting.

33. The information processing apparatus according to claim 31, further comprising binding margin determining means for determining whether the binding margin setting 10 should be adjusted or not when mirroring is specified as the print setting for said print data and a binding margin is also set,

wherein when said binding margin determining means determines that the binding margin setting should be 15 adjusted, said preview display controlling means creates mirrored display data after adjusting the binding margin setting.

34. The information processing apparatus according to claim 31, wherein when mirroring is specified as the 20 print setting for said print data and a Nup setting for placing N logical pages on one physical page is made, said preview display controlling means creates mirrored display data after adjusting the Nup page order.

35. The information processing apparatus according to claim 31, further comprising Nup page order determining 25 means for determining whether the Nup page order should be adjusted or not when mirroring is specified as the print

setting for said print data and a Nup setting for placing
N logical pages on one physical page is made, wherein when
said Nup page order determining means determines that the
Nup page order should be adjusted, said preview display
5 controlling means creates mirrored display data after
adjusting the Nup page order.

36. An information processing method that creates
print data, comprising:

a spooling step for storing print data created by an
10 application;

a determining step for determining whether mirroring
or color inversion is specified as the print setting for
said print data;

a preview display controlling step for, when said
15 determining step determines that mirroring or color
inversion is specified, creating mirrored or color-
inverted display data based on the print data stored in said
spooling step and presenting a preview.

37. The information processing method according to
20 claim 36, wherein when mirroring is specified as the print
setting for said print data and a binding margin is also
set, said preview display controlling step creates mirrored
display data after adjusting the binding margin setting.

38. The information processing method according to
25 claim 36, further comprising a binding margin determining
step for determining whether the binding margin setting
should be adjusted or not when mirroring is specified as

the print setting for said print data and a binding margin is also set,

wherein when said binding margin determining step determines that the binding margin setting should be
5 adjusted, said preview display controlling step creates mirrored display data after adjusting the binding margin setting.

39. The information processing method according to claim 36, wherein when mirroring is specified as the print
10 setting for said print data and a Nup setting for placing N logical pages on one physical page is made, said preview display controlling step creates mirrored display data after adjusting the Nup page order.

40. The information processing method according to claim 36, further comprising a Nup page order determining step for determining whether the Nup page order should be adjusted or not when mirroring is specified as the print setting for said print data and a Nup setting for placing N logical pages on one physical page is made, wherein when
20 said Nup page order determining step determines that the Nup page order should be adjusted, said preview display controlling step creates mirrored display data after adjusting the Nup page order.

41. A storage medium that stores a program module for a computer to execute an information processing method for creating print data, said program module comprising:

a spooling module for storing print data created by an application;

a determining module for determining whether mirroring or color inversion is specified as the print
5 setting for said print data;

a preview display controlling module for, when said determining module determines that mirroring or color inversion is specified, creating mirrored or color-inverted display data based on the print data stored in said
10 spooling module and presenting a preview.

42. The storage medium according to claim 41, wherein when mirroring is specified as the print setting for said print data and a binding margin is also set, said preview display controlling module creates mirrored display data
15 after adjusting the binding margin setting.

43. The storage medium according to claim 41, further comprising a binding margin determining module for determining whether the binding margin setting should be adjusted or not when mirroring is specified as the print
20 setting for said print data and a binding margin is also set,

wherein when said binding margin determining module determines that the binding margin setting should be adjusted, said preview display controlling module creates
25 mirrored display data after adjusting the binding margin setting.

44. The storage medium according to claim 41, wherein
when mirroring is specified as the print setting for said
print data and a Nup setting for placing N logical pages
on one physical page is made, said preview display
5 controlling module creates mirrored display data after
adjusting the Nup page order.

45. The storage medium according to claim 41, further
comprising a Nup page order determining module for
determining whether the Nup page order should be adjusted
10 or not when mirroring is specified as the print setting for
said print data and a Nup setting for placing N logical pages
on one physical page is made, wherein when said Nup page
order determining module determines that the Nup page order
should be adjusted, said preview display controlling module
15 creates mirrored display data after adjusting the Nup page
order.

46. A computer-program, which are executed by
a computer, comprising:

a spooling step for storing print data created by an
20 application;

a determining step for determining whether mirroring
or color inversion is specified as the print setting for
said print data;

a preview display controlling step for, when said
25 determining step determines that mirroring or color
inversion is specified, creating mirrored or color-

inverted display data based on the print data stored in said spooling step and presenting a preview.

47. The computer-program according to claim 46,
wherein when mirroring is specified as the print setting
5 for said print data and a binding margin is also set, said
preview display controlling step creates mirrored display
data after adjusting the binding margin setting.

48. The computer-program according to claim 46,
further comprising a binding margin determining step for
10 determining whether the binding margin setting should be
adjusted or not when mirroring is specified as the print
setting for said print data and a binding margin is also
set,

15 wherein when said binding margin determining step
determines that the binding margin setting should be
adjusted, said preview display controlling step creates
mirrored display data after adjusting the binding margin
setting.

49. The computer-program according to claim 46,
20 wherein when mirroring is specified as the print setting
for said print data and a Nup setting for placing N logical
pages on one physical page is made, said preview display
controlling step creates mirrored display data after
adjusting the Nup page order.

25 50. The computer-program according to claim 46, further
comprising a Nup page order determining step for
determining whether the Nup page order should be adjusted

or not when mirroring is specified as the print setting for said print data and a Nup setting for placing N logical pages on one physical page is made, wherein when said Nup page order determining step determines that the Nup page order
5 should be adjusted, said preview display controlling step creates mirrored display data after adjusting the Nup page order.